

for the family physician

CLINICAL MEDICINE

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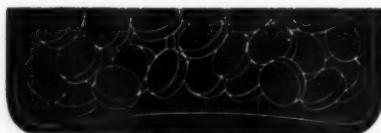
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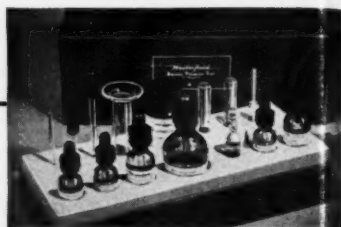
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EDITORIAL

Atomic Bomb Effects

by FREDERIC R. STEARNS, M.D., *Editor*

Considering the general apprehension about possible atomic warfare, it might be of benefit to give a brief account of the medical experiences as yet gained by the observations and follow-up studies in the population of Japan. We are compiling the most essential presentations of the literature without bibliographic references; yet, we are ready to furnish any reader, interested in the bibliography, a list of the most important papers published within the past five years.

The explosion of an atomic bomb releases kinetic energy in various forms; eighty per cent of this energy can be identified as infra-red and ultraviolet radiation; heat, therefore, reaching several million degrees in the close proximity of the bomb, has the most immediate impact on the population together with the effect of blast. Within this area beneath the explosion—hypocenter—the ionizing effect of the bomb is combined with the thermal and the blast effect. In the zone outside of this hypocenter, the effects of radioactivity are more damaging than heat; however, more burn injuries will be found in this outer area, because most persons within the hypocenter zone will not survive. As to the radioactivity, one must keep in mind that the alpha particles are highly ionizing and destructive, but poorly penetrating; the beta particles are less damaging but penetrate superficially; the gamma particles are deep penetrators but are the least damaging. The neutrons carry neither a positive nor a nega-

tive charge; they, accordingly, penetrate deeply and are very destructive. To give an example of the effect of radioactive rays, one may state that 50 to 100 r¹ would produce slight nausea, a transitory leukopenia and thrombocytopenia with complete recovery. 200 to 400 r would cause moderate leukopenia, severe nausea, thrombocytopenia, mild anemia, vomiting, diarrhea, and moderate hemorrhagic phenomena. Death would be rare; the majority of the affected would recover. 400 to 600 r would cause severe anemia, leukopenia, thrombocytopenia, hemorrhagic manifestations, severe vomiting and bloody diarrhea. Less than half of this group would survive. With radioactivity of 600 r and more, only very few individuals would survive.

Thus, aside of the burns, the principal effect of radioactivity would involve the hematopoietic centers. Anemia (blood, deficient of erythrocytes), leukopenia (in some cases the number of leukocytes was below 1,000, and in a few cases the leukocytes disappeared entirely before death), increase of bleeding time, and increased capillary permeability, and in relation to this syndrome, disturbance of liver function, were the most generally observed signs of ionizing radiation. When these manifestations persist, one has found that the chief factor in the development of continued leukopenia and agranulocytosis is damage to the bone marrow; the persisting anemia is largely due to the loss of blood into the tissues;

EDITORIAL

the decreased blood supply—quantitatively and qualitatively—may result in degenerative tissue processes, particularly involving the gastrointestinal tract where ulcerations may develop. Fatal outcome in the first month after exposure is, therefore, the result of three factors: anemia, secondary infection, and/or toxemia associated with tissue degeneration. As to those persons who died later than one month after exposure but within several weeks, from internal hemorrhage, one has assumed that strong doses of atomic radiations caused excessive amounts of heparin to appear in the blood. An interesting follow-up study of several hundred subjects in Hiroshima and of a control group, showed that most of the irradiated persons, who had survived, made a complete recovery regards their hematopoietic system. The authors of this thorough follow-up study set forth three clinical types: 1) persons, exposed within one kilometer around the epicenter of the explosion exhibited nausea, vomiting, diarrhea, fever, leukopenia and hemorrhages resulting in death within one week; persons, within 1 to 1.25 kilometers from the epicenter, showed frequently a delusive temporary improvement but the mortality rate was about 50 per cent within 3 to 5 weeks; individuals, within 1.25 to 2 kilometers from the epicenter, generally survived. As to those persons who survived burn injuries, observations in Nagasaki, two years after the bomb explosion, showed that scars of flash burns with contractures were not uncommon; yet most of the first and second degree burns had healed in the usual manner; keloids after injuries were relatively frequent.

A condition that should be pointed to is the development of cataract in exposed persons. According to one investigation group the frequency of cataract incidence is about two per cent of survivors within an area of one kilometer of the epicenter. 10 cases of cataract were diagnosed, and no case was found outside the 1 kilometer radius. Another examination of 1,000 persons most of which were within an area of 3,000 ft. corresponding with about one kilometer at Hiroshima, revealed 40 cases of cataract (4 per cent).

One of the most pressing questions of late sequelae of atomic exposure is that of the influence of the offspring. This problem cannot be solved in the first generation as it is known that the majority of mutations occurring in exposed animals are recessive in character so that only a relatively small proportion of dominant mutations may be expected to be expressed in the first postbombing generation. In one paper the prediction was made that, according to experiments with trouts receiving only small x-ray doses, the grandchildren of the survivors of Nagasaki and Hiroshima will have a decreased fertility and will produce a greater ratio of still-born and malformed offspring. A long range program is now in progress to study all newborn children in the exposed areas in Japan; at present, medical examinations are being made monthly at the rate of 700 infants in Hiroshima and 800 in Nagasaki.

¹r (roentgen), unit of roentgen radiation: produces—under basic conditions—in 1 cc of air at 0°C. and 760 mm. of mercury pressure, a conductivity that one electrostatic unit of charge is measured at saturation current.

ORIGINAL ARTICLES

Principles of Genetics

by W. S. ANDERSON, *Emeritus Professor of Genetics,
University of Kentucky*

Before nineteen hundred biological research had made little progress in the study of the mysteries of reproduction. The two sciences, anatomy and physiology, had seemingly covered the biological science. But when, during the early decades of this century, the research of scientists included the origin of life, descent and heredity it became necessary to give it a name. About 1905 the research activities were named Genetics as a third science of biology. Since then many important discoveries have been made concerning the principles of heredity, descent and even of life itself.

The principles of genetics explain the laws of inheritance and the initiation of life. Genetic scientists have discovered and formulated many valuable laws of descent and are still busy in that field.

Biology has already explained that the process of growth is by cell division; and that cells are the physiological and structural units of the human body as they are of all animals and plants. The functions of one's body are dependent on the activities or vigor of the cells. The functions are support, breathing, digesting, collecting, distributing, moving, excreting, irritability to environment, and reproducing. The living cell gathers its food from the blood until it grows to normal size. It then divides into two daughter cells of equal quantity and quality. They in turn feed by absorption from the blood stream until they grow to normal size and then proceed to divide.

The structure of the cell is a minute portion of living substance within a thin membrane. Living substance is known as protoplasm. The more important part of the cell is the nucleus, which carries the hereditary material and seems also to be the center of the principle of life. The nucleus, especially of the reproductive cells, is composed of granules of chromatin, congregated in pairs — each pair is identical in hereditary material. The number of pairs are constant for each race. The number for humans is 24 pairs or 48 single packages. Each race of animals has its number of hereditary pairs. Geneticists after many years of research have discovered the method of division of the nucleus, or its contents, during cell multiplication. The cells which build the body and serve it as long as it is alive carry a small amount of chromosome or hereditary material, yet divide it equally in cell multiplication. The method by which exact equality is obtained in cell division is one of the beautiful wonders of nature's laws.

The Geneticists consider the human as a dual entity: somatoplasm or bodily structure, and germplasm or hereditary material. The somatoplasm, or soma, is the body with all its limbs, organs, glands, blood vessels and nerve ramifications. The soma is the instrument through which the process of reproduction takes place. The germplasm is the invisible material within the nucleus of sex gland cells which is passed from generation to generation after

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it has succeeded in the configuration of its own generation. Its generation can only be what the hereditary factors of its germplasm determines it to be. Germplasm, and it only, initiates new life.

Geneticists have given us a glimpse of the beauty and grandeur of the processes of reproduction and the method by which new generations are created. The sex glands carry the germplasm for reproductive purposes. There is some hereditary material carried by all body cells but it has no connection with reproduction. The first step toward initiating a new life is for the gonads to produce sex cells.

To produce sex cells a gland cell separates its 24 pairs of chromosomes into two divisions of 24 single chromosomes each, one of each group of chromosomes being contributed to each of the two sex cells that result from the equal division of the single gland cell. The purpose of this reduction to 24 single chromosomes is to enable the union of a sperm cell with an ovum at conception and thus give the zygote 24 pairs of chromosomes or the normal number of 48. Doubling the chromosomes in the zygote is for the purpose of providing two genes or factors for every character and trait in order that there may be opportunity for dominant and recessive genes to express themselves. The advantage of two sex cells uniting into a zygote is to permit two different streams of germplasm to mingle and thereby give individuality to each person or so no two persons can ever be exactly alike. The mingling of these streams provides for an equality of germplasm from both parents. Also the life principle of each sex cell unite these principles in the fertilized egg. There is no male or fe-

male hereditary material. The same hereditary material is carried by both sexes through one generation and must mingle it with each conception. It is true sperm cells are so constituted by means of an extra factor on determining the sex of offspring.

The male gonads begin to function at 12 or 14 years of age and continue to extreme old age, the sperm decreasing in number as age comes on. Produced in unbelievable numbers the sperms are of microscopic size. The ectoplasm of these cells is drawn out into an elongated cilia, which is quite long when compared to the size of the cell. With this cilia they can swim in liquid semen and on mucus membrane. The sperm are the only human cells capable of movement. The ability to travel enables them to find the ovum within the womb of the female.

Ovaries are more conservative in producing sex cells. They have divided the time between them in periods or cycles of 28 days each, which makes it necessary for only one ovary to produce an ovum, or egg, every 56 days. At the 14th day of the cycle the ovary drops an ovum into the fallopian tube which carries it to the uterus. A hormone has notified the endometrium of the expected arrival of an ovum so it would generate mucus cells and blood vessels on its surface to cradle and nourish the initiation of a new life. The new life depends on the fertilization of the ovum by the sperm which injected into the vagina may travel into the uterus to find the ovum and unite with it. As the sperm enters through the cell wall it loses its cilia and the wound in the wall causes a sudden chemical change in the membrane of the ovum. This chemical change enables the membrane

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of the ovum to repel any others approaching or entering the egg. The "conception" or "fertilization" is consummated as the nucleus of each cell unites and mingles their chromosomes or hereditary genes.

The fertilized egg is known as a *zygote*; for the first two months of gestation, as an *embryo*; for the next seven months, as a *fetus*. Unless the ovum is fertilized shortly after release by the ovary it perishes and causes the ultimate death of all the uterine cells accumulated for its nutrition. This with the ovum becomes a bloody mass of dead material and is cast off by what is known as menstruation. The flow takes about four days near the end of the 28th day cycle. The other ovary produces an ovum and drops it on the 14th day of the next period.

Somatogenesis:

Somatogenesis is the growth and development of the *zygote* and configuration of bodily structure with all its complex limbs, organs, glands, arteries, brain and nerves with their afferent and efferent fibers. Biological laws of growth produce the necessary cells. The genetic laws of heredity, assisted by hormones, are responsible for the architecture and artistic building of a human body resembling its family of ancestors.

The *zygote* is to the human race a most valuable entity. Activated by a double life principle, equipped with the genes and factors of the ages, *zygotes* develop unique personalities that vary from feeble-minded to genius, from feeble short-lived constitutions to vigorous long-lived constitutions.

Feeble-mindedness is hereditary and some forms of it are dominant. The histories of two tribes, the "Jukes" and the "Kallikak" are proofs of hereditary feeble-minded. Dr. Ester-

brook has recorded 2094 individuals bearing Jukes blood scattered over fifteen states. He found 748 living descendants over fifteen years of age, of these living 323 were typical degenerates. Dr. Goddard reports 480 known descendants of the Kallikak tribe, 148 of whom were distinctly feeble-minded, all a product by descent of "Martin Kallikak's" illegitimate son whose mother was a feeble-minded girl. An example of the danger to society of unprotected feeble-minded girls.

Sir Francis Galton was the first man to show "Hereditary Genius" as a product of distinguished families. He studied the background of 100 celebrated persons. They had 3 great, great grandfathers, 17 grandfathers, 31 fathers, and themselves had 48 sons, 14 grandsons and 3 cousins who were celebrated.

Genetic principles direct birth, growth development and reproduction of mankind as it does of all mammalian forms of life. Johnathan Edwards' progeny is an excellent example of the persistence and dominance of genius and ability. Of his descendants 1394 were identified in 1900, or fifty years ago, 295 were college graduates, 13 presidents of America's great colleges, 60 physicians, more than 100 clergymen, missionaries or theological professors, 60 prominent authors, 100 lawyers, 30 were judges, 80 held public office. There is no way to account for that number of celebrated men descendants of one man and one woman except by heredity.

Eugenics is a word derived from genetics and is defined by Galton as "The science of being well born" or one whose parents have good germ-plasm.

Dr. Laughlin of the *Eugenics Rec-*

(Continued on page 223)

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Cardiovascular Syphilis

by GERALD FLAUM, M.D., AND EVAN W. THOMAS, M.D.

*From the Rapid Treatment Center
Bellevue Hospital, New York, N. Y.*

Any discussion of cardiovascular syphilis divides into three parts: prevention, detection and treatment.

PREVENTION: Syphilitic cardiovascular disease is the only preventable form of heart disease at the present time. Early detection and treatment of syphilis will eliminate later involvement of the aorta and heart. The aorta is seeded with spirochetes early in the course of the disease (during the secondary stage). For this reason, early adequate anti-syphilitic therapy will eradicate the aortitis and prevent later development of syphilitic cardiovascular disease.

The improvement in anti-syphilitic therapy generally through the country in the past two decades has resulted in a markedly decreased incidence of cardiovascular syphilis. Aortic aneurysms and aortic insufficiency due to syphilis have become infrequent on the medical services of most general hospitals.

DETECTION (DIAGNOSIS): The essential pathological change in cardiovascular syphilis is in the aorta. The spirochetes affect the vasa vasorum of the aorta, because of which the muscular layer is damaged. This in turn leads to dilatation of the aorta which is the first detectable sign. This cannot be diagnosed by auscultation, although certain findings may lead one to suspect its presence. It remains for the x-ray or fluoroscope to make this diagnosis. Dilatation of the first portion of the aorta with increased amplitude of pulsations is the essential finding;

the arch and descending portions may also be involved. Other conditions which may cause such dilatation of the aorta must be excluded: e.g., hypertension, arteriosclerosis, hyperthyroidism, rheumatic fever. However, the presence of characteristic aortic dilatation in an individual with a positive serologic test for syphilis is presumptive evidence of syphilitic aortitis, if the above diseases are not evident. Since hypertension and arteriosclerosis are common in the older age groups, it may not be possible to make a definite diagnosis of uncomplicated syphilitic aortitis in patients above the age of 45-50.

Syphilitic aortitis produces no symptoms. Once the aortic process is established, however, it may give rise to:

1. Aortic aneurysm.
2. Insufficiency of the aortic valve.
3. Stenosis of the coronary ostia.

These conditions may produce clinical symptoms and may be responsible for bringing the patient to the physician.

TREATMENT: There has been much discussion in the past of the danger of instituting anti-syphilitic therapy in cardiovascular syphilis for fear of inducing a Herxheimer reaction ("therapeutic shock"). In our experience this fear has been greatly exaggerated. We have encountered no adverse reactions with either penicillin or with the older forms of therapy with bismuth and arsenicals.

A more important point is whether

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anti-syphilitic therapy is of value once cardiovascular syphilis is established. Naturally, one cannot repair an insufficient valve nor reduce the size of an aneurysm nor prevent its rupture by anti-syphilitic therapy. But it is possible to eradicate the syphilitic inflammatory process in the aorta and thereby prevent further damage. For this reason we believe that any patient with cardiovascular syphilis, who has not had adequate previous anti-syphilitic therapy, should receive a course of treatment, preferably with penicillin. For this purpose we are using 6,000,000 units of procaine penicillin in oil with aluminum monostearate. This dosage is known to be effective in other forms of syphilis, where results of therapy can be evaluated.

It may be given in doses of 600,000 units once daily, every other day, or three times weekly.

Non-specific therapeutic measures should be employed as indicated. Aortic aneurysms producing symptoms may be treated by appropriate measures. Heart failure resulting from syphilitic aortic insufficiency should be treated as it is treated in any other form of heart disease, with adequate digitalis, mercurial diuretics, salt restriction, etc. In contrast to popular opinion the response of these patients in heart failure is comparable to those with heart failure due to other forms of heart disease. Finally, the prognosis in cardiovascular syphilis is not as bad as was believed formerly, either for time or disability.

Polyneuritis Complicating Typhoid Fever With Unusual Localizations

by ALFRED GORDON, M.D.

In infectious diseases, the nervous system which presents a feeble organic resistance to toxic products, is very frequently affected. The changes produced by toxins are either profound and unalterable or only transitory. Although the characteristic feature of toxic agents consists of their special affinity for certain protoplasmic molecules and cells of certain organs, it is nevertheless difficult to realize why in a given case the brain alone is affected in a certain group of cases, or only the spinal cord in another group or only the peripheral system in still another group. It is probable that the locus minoris resistentiae plays a prominent role in the localization of the infectious element. It

is certain, however, that the central portion of the nervous system is more frequently affected than the peripheral.

In a case of an adult in whom a brachial monoplegia with facial palsy occurred after exposure in an intoxicated condition, the question of rarity of acute poliomyelitis in adults was considered and the possibility of involvement of the whole lower motor neurons (cells and motor fibers) in similar cases was emphasized. That case as well as the one in the present paper are almost identical in their manifestations; here and there we have a brachial paralysis with a peripheral facial palsy, but the onset, the course of the disease, and the present condi-

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tion favor the view of poliomyelitis in the first case and polyneuritis in the second. Nevertheless a sharply defined border line between these two affections is almost impossible in a large number of cases. While in some the onset and course are those of anterior poliomyelitis and in others those of polyneuritis, there is a certain number in which it is difficult, if not impossible, to make the distinction, and they must be considered as intermediary forms on this basis that there is a simultaneous involvement of all segments of certain neurons. At all events, whether our case is an example of a poliomyelitis or a polyneuritis, there is one side of the question which is surrounded with mystery, namely the unilaterality of the morbid condition—paralysis of the face and arm on the same side. That multiple neuritis follows or occurs during typhoid fever is a well known fact but the records show that the neuritis in such cases is limited to the extremities. Facial palsy in typhoid fever is certainly a rare occurrence and an association of a brachial palsy with a peripheral facial palsy on the same side is still rarer.

Unfortunately the state of our present knowledge does not enable us to determine how the infection reaches the seat of the lesion, or otherwise speaking, how and why does the typhoid poison affect entire neurons or only portions of them in the cord and medulla and both on the same side? It also belongs to future investigations to determine the duration and mode of action, quality and quantity of infectious or toxic agents when they come in contact or in chemic combinations with the sensory or motor neurons.

The case I am about to report is

interesting from the standpoint that a diagnosis of an acute anterior poliomyelitis in an adult with a facial palsy may be considered, although polyneuritis presents a greater degree of probability. The case is as follows:

A male, aged 30, without a previous personal or family history of any special importance, had an attack of typhoid fever two years ago. At the end of the fifteenth day, when the fever went down to 99°, pain appeared in his right upper limb. At the same time he noticed a certain difficulty in masticating food, and fluids would run out of his mouth on the right side; he was also unable to close his right eye. There was no pain in the face, which was distinctly drawn to the left. The pain of the arm was soon followed by a gradually increased weakness, so that he was unable to hold an object in his hand for any length of time. After the acute stage had subsided, the condition began to improve.

On examination I found a slight but distinct right facial palsy; some weakness of the right frontalis, orbicularis palpebrarum, and buccinator muscles, tongue protruding to the right. The entire right upper limb is weak; the elevation, abduction of the arm, the extension and flexion of the forearm, and the grip of the hand are distinctly diminished in function. There is no spasticity, but rather a tendency to flaccidity. The musculature of the arm is flabby and small in size, but that of the forearm is in better condition. The right hand is also smaller than the left. The tendon reflexes of the right arm are diminished. There was a marked tenderness of the nerve trunks of the entire right limb; deep pressure upon the muscles provoked pain; there was no tenderness in

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the axilla or above the clavicle on the same side. No other objective sensory disturbances could be elicited. Patient complains of occasional lancinating pain in the right arm, but mainly of weakness and sensation of numbness.

The absence of rigidity, the condition of the reflexes, and of other motor phenomena, the course of the disease and character of the facial involvement are facts which are not certainly in favor of a cerebral lesion.

Complications of the Low-Sodium Diet for Hypertension

by SIDNEY FRIEDENBERG, M.D.

Among the most promising treatments for hypertension in the past decade has been the low-sodium diet. The case for the effectiveness of a regimen low in salt is fortified by recent careful reports (1, 2) which state that hypertension is reduced in a significant percentage of patients. Not by far is this opinion unanimous.

All other promising therapeutic methods carry some risk whether it be the thiocyanates or sympathectomy. Is there any danger inherent in a low sodium diet?

There are several reports (3, 4, 5, 6) which warn of the disastrous effects of a reduced sodium intake. This is clinically seen in the form of a "low salt syndrome" with symptoms strikingly similar to those of an acute adreno-cortical deficiency (Addison's disease): weight loss, extreme lassitude, and anorexia. Laboratory studies reveal nitrogen retention, hyponatremia, and uremia. Schroeder (3) suggests that there is a dilution of extra-cellular electrolytes, overhydration, and hydration of cells. He has treated this condition successfully with a 5-6 percent hypertonic saline solution even in the presence of congestive heart failure.

Actual Addison's disease has been reported as a complication of a long-continued low salt diet. (6)

The supposed chain of events leading to this rare complication was the break-down of homeostasis in the adrenal cortex as the result of an insufficient sodium supply with the activation of a latent tubercle. Tuberculosis of the adrenal glands developed with subsequent widespread miliary tuberculosis.

The sodium metabolism is not only concerned with acid-base balance is recognized. There are other important but obscure relationships: renal, water balance, and hormonal, particularly adrenal. Again, just why severe restriction of sodium should lower blood-pressure, relieve symptoms, decrease heart size, and even cause reversal of abnormal T waves in the electrocardiogram (2) is as much an enigma as the etiology of hypertension itself.

There is some slight risk then in placing a patient with arterial hypertension on a restricted sodium intake. This must be weighed against the possible but not certain beneficial hypotensive effect of such a diet.

1. Loofbourow, D. and Palmer, R. S. *New England J. of Med.* 243, 295-307, 1950.

2. Bryant, J. M. and Blecha, E. *Proc. Soc. Exper. Biol. and Med.* 65, 227-229, 1947

(Continued on page 223)

CASE PRESENTATIONS

Female, 31 years at the age of death, was seen first at the age of 27 in 1946. The family history was noncontributory. She had the usual childhood diseases. The patient appeared in good health. The only pathology found, was underweight of 32 percent which, however, could not be explained by any systemic disease.

The patient entered the hospital for the first time in 1946. She complained of nervousness and attacks of vomiting. There was a peculiar livid discoloration involving the entire body. She was examined for possible Addison's disease, however, no definite diagnosis could be made. The blood pressure was 90/50. The pulse rate was 58. As the patient had a retroverted and prolapsed uterus, a suspension of the uterus was performed. All laboratory tests were negative.

The patient was again admitted to the hospital in June, 1950. She was toxic and stuporous on admission; the family stated that she had been a heavy drinker by working in a beer tavern, operated by her husband. She had been treated for alleged pneumonia about three weeks ago and had received daily 500,000 units of penicillin as well as sulfasuxidine. Typhoid fever had been suspected; however, this could not be confirmed. The patient was perspiring profusely. Later on, when somewhat clearer she stated that she had not eaten a decent meal for six months. The examination showed a blood pressure of 100/60. There was tympany of the whole abdomen. Again a pigmentation of the skin, brownish this time, and especially of the legs was found. In the sputum, acid fast bacilli were found and the culture for acid fast bacilli was also

positive. The Kahn reaction was negative. The urine showed one plus albumin and a few casts. The blood test showed 10.5 grams of hemoglobin, 3.91 million red blood cells, 7,050 white blood cells; the differential count was normal. The X-ray picture of the chest showed quite marked consolidation in the lower two-thirds of the right upper lobe and slight involvement below the level of the interlobar fissure; in the left lung was a large area of consolidation extending from about the level of the first rib down to the third rib and scattered consolidation throughout the left lower lobe. The roentgenological diagnosis was: bilateral, far advanced pulmonary tuberculosis with one very large cavity at the level of the right second interspace. Neurologically the patient showed a jerky tremor of the hands and bilateral deafness which according to the family had been present only for four or five days. Because of the patient's critical condition no spinal puncture was performed and the patient was transferred to a State Tuberculosis Sanatorium where she died three months later. The diagnosis made at the sanatorium was tuberculous meningitis and advanced and active pulmonary tuberculosis.

It is quite probable that this patient already in 1946 at the age of 27 had an arrested tuberculosis. The underweight of 32 percent at that time was quite conspicuous. However, she went through a pregnancy without developing an active tuberculosis. At that time the suspected Addison's disease, which frequently is due to tuberculosis of the adrenal glands, should have pointed to the possibility of tuberculosis. In the following years the applicant led

CASE PRESENTATION

a rather dissolute life, drinking heavily, eating poorly and sleeping poorly. Whether or not her tuberculosis had been active for some time is hard to say; the acute attack of pneumonia about three weeks before her last admission was obviously the activating agent for a rapidly progressing tuberculosis. The extreme malnutrition, signs of pellagra and the chronic alcoholism may have been essential in the development of tuberculous meningitis. It was not revealed whether the patient at the sanatorium was treated with streptomycin; but even if so, the combination of a bilateral pulmonary tuberculosis with cavities and of tuberculosis meningitis would have been fatal under all circumstances.

(J. Scherrer, Sem. des Hôp, de Paris. 24:1999. Aug. 1948 has pointed to the psychic disturbances in tuberculous meningitis similar to those observed in this patient. As to the relation of malnutrition to tuberculosis: F. C. Stare; D. M. Hegstedt and J. M. Kibbin. Nutrition, in J. M. Luck and J. H. C. Smith. Annual Review of Biochemistry, Stanford. Annual Reviews. vol. XIV, 1945 p. 431 — H. R. Getz; I. S. Westfall and H. J. Hendersen. Nutrition in Tuberculosis evaluated by Blood Analysis. Am. Rev. Tub. 50:96, Aug. 1944—W. O. Russell; J. A. Reed and E. T. Rouse. Morphologic and Histochemical Study of the Effect of Scurvy on Tuberculosis. Arch. Path. 38:31, July 1944).

Sydenham's Chorea

Q. A girl, 9 years of age, presents a typical case of chorea minor (Sydenham). The signs and symptoms consist of uncoordinated movements of arms and legs which are non-rhythmic in character; the tongue is involved, which produces a disturbing speech defect, particularly in using longer words; the child is grimacing and exhibits a slight squint. The heart is not enlarged and the electrocardiogram is normal; however, there is muffled systolic murmur at the apex. The sedimentation rate is considerably increased; there is no history of rheumatic fever. At times the child had abdominal pain of obscure etiology and had twice rather severe nose bleeding. The condition has persisted now for three weeks; symptomatic and palliative therapy has had

no effect; on the contrary, the child becomes increasingly a behavior problem with irritability, stubbornness, even temper tantrums, and episodes of anxiety. Would there be any treatment program you could suggest? F. R. W., M. D. Maryland.

A. The increased sedimentation rate, the abdominal pains, and the heart involvement places this case in the rheumatic group which embraces about 65 per cent of all cases of Sydenham's chorea. Bauer recommends the following treatment: "Two hours after a light breakfast a hypodermic injection of morphine sulfate is administered. . . . One-half hour later an intravenous injection of 0.2 cc. of a mixed typhoid-paratyphoid vaccine is given . . . temperature is taken at 10-minute intervals. A temperature of at least

CASE PRESENTATION

104° F. must be obtained . . . and remain there of two hours. Daily treatments for eight days constitute the course for the average child." 300 cases treated. "Speech improved after the third or fourth injection. . . ." Salicilate and bicarbonate administration have to be continued after termination of fever therapy until all postulates indicating arrest of rheumatic infection are satisfied." Tucker also recommends 'typhoid shock' therapy. It also can be applied in adults, but contraindications are: chronic renal disease, diabetes mellitus, active tuberculosis, malnutrition, allergy, and myocardial weakness. Immediate results of typhoid vaccine are often spectacular. Of 29 patients, 18 recovered after 3-6 intravenous typhoid shock

treatments, 6 improved, 3 had no relief. Fever therapy, using the hypotherm apparatus, also has produced good results. Complete bed rest, mild sedations and an individual room are helpful. Neither vitamins such as Pyridoxine hydrochloride, nor anticonvulsant drugs have proved to be of any value. Cortisone and ACTH have not been yet sufficiently evaluated.

(lit.: E. Bauer. *Pennsylvania Med. J.* 49:113, Nov. 1945 — J. Tucker. *Cleveland Clin. Quart.* 13:67, 1946—B. M. Kagan. *J. Ped.* 31:322, Sept. 1947—E. R. C. Walker. *Edinburgh Med. J.* 55:17, Jan. 1948—M. B. Kagan; D. Rosner and P. Rosenblum. *Am. J. Dis. Child.* 28:295, Sept. 1945 — *Queries and Minor Notes. J.A.M.A.* 11:1039, June 15, 1950)

DIAGNOSTIC SUGGESTIONS

Cervical Rib

Signs and symptoms are rare before puberty as the growth of the ribs, the ossification and final position of the shoulder are still in a state in development. If manifestations occur after puberty the paradoxical phenomenon can be observed that although the incidence is higher on the left side, the severity of the signs is greater on the right side. The symptoms are not uniform and vary from case to case: 1) pain occurring in all parts of the neck, arm, shoulder, fingers, chest, upper part of the back, axilla, chest. All forms of sensibility disturbances (hyper, hypo, and paresthesia may be encountered; 2) muscular involvement in form of weakness or even paralysis with atrophy; 3) vas-

cular disturbances such as sweating, alterations of color, of temperature and of the trophic condition; 4) rare complications are: paralysis of the phrenic nerve, venous thrombosis, laryngeal disturbances. A main diagnostic requirement is the x-ray picture of the spine (cervical and upper thoracic). As to the differential diagnosis, the following conditions should be borne in mind: 1) neuritis (toxic), Raynaud's disease; 2) cervical arthritis, subacromial bursitis; 3) protrusion of intravertebral disk of the cervical spine; 4) Buerger's disease (thromboangiitis obliterans). According to the authors the incidence rate of cervical rib is between 0.03% to 0.1% of the total population (J.L. Poppen; J.T. Kendrick; W.E. Smith. *S. Clin. North America* 30: 843, 1950).

DIAGNOSTIC SUGGESTIONS

Brain Tumor

A brain tumor should be suspected when a patient presents one or more of the following groups of signs or symptoms: 1) convulsive attacks beginning without apparent cause in adult life (neurosyphilis, head trauma have to be excluded), 2) progressive focal neurological signs such as visual field changes (to some extent, focal neurological signs, such as aphasia, hemianopsia and hemiplegia, are due to cerebral vascular accidents; but, then, the onset is relatively sudden, and tendency for improvement is the rule); 3) signs and symptoms of increased intracranial pressure (headache, nausea, projectile vomiting, blurring of vision, transient blindness, choked discs, papilledema, drowsiness, stupor, coma). In cases of suspected intracranial tumor, study of the cerebrospinal fluid, plain x-ray films of the skull (approximately 15 per cent of the tumors are sufficiently calcified to be visible), ventriculography, cerebral arteriography and electroencephalography are of diagnostic value. (S. R. Snodgrass. *J. Ins. Med.* 3:28, June-Aug., 1950).

Alcoholism

There are three main types of alcoholism which should be well differentiated: 1) symptomatic alcoholism (40 to 60 per cent of all alcoholics) is a symptom of an illness such as epilepsy, psychosis, psychoneurosis, mental deficiency, psychopathic personality; 2) true addiction, a congenital or hereditary metabolic disturbance in which alcohol has a poisonous effect; 3) secondary addiction is an escape mechanism of a generally adjusted individual because of exogenic influences (J. Hirsch *Postgraduate Medicine* 8:5, 1950)

Infectious Mononucleosis

Classical diagnostic features are: increased concentration of abnormal lymphocytes in the peripheral blood smear and a positive Paul-Bunnell reaction (heterophil agglutination for sheep red cells). The pathognomic finding in the blood smear is the increase in lymphoid cells, and that of three types: small lymphocytes, monocytes, and large monocytoïd lymphocytes which vary in size, have an irregularly shaped nucleus, a vacuolated and foamy cytoplasm which may contain granules. The total white cell count is usually normal or slightly elevated, with later development of leukopenia and relative lymphocytosis. (H. D. Bennett; J. J. Frankel; P. Bedinger and L. A. Baker. *Arch. Int. Med.* 3:391, September 1950).

Small Bowel Obstruction

Three characteristics of clinical manifestations; 1) pain, generalized, diffuse, spasmodic, increasing in intensity, culminating in extreme severity, only to subside and to recur in a short time; 2) synchronous with the periodic spastic pain, visible peristalsis, 3) audible intestinal sounds (borborygmus). These sounds increase in intensity, finally ending in a loud metallic sound with the cessation of pain and peristalsis. High obstruction produces prostration, vomiting and dehydration. In low small bowel obstruction there is no regurgitant vomiting. Only by x-ray picture one can determine the type of obstruction present. By a plain radiographic film of the abdomen, the distribution and pattern of gas in the small intestinal tract can be determined; gas can be demonstrated within a few hours after obstruction has occurred. (C.J. Hunt. *S.M.J.* 43:469-6, '50.)

DIAGNOSTIC SUGGESTIONS

Epilepsy

Twenty-two unselected male clinic epileptic patients, ages 20-52, were studied with reference to social, work, school, and marital adjustment. In general, patients with the more severe medical handicap showed better work adjustment. Patients with slight medical handicap had less reason to fear and were more fearful. The families reacted oppositely. They were more able to accept the illness when the medical handicap was slight. The patients who are best controlled medically are those who need most help in coming to terms with their illness. Without such 'internal' adjustment to the illness, 'external' adjustment to work is much more difficult. Social adjustment suffers more than work adjustment under unfavorable medical conditions. Patients stop trying to make an adequate social adjustment when they are trying to adjust themselves to work. Patients who are not secretive about their illness, make best work adjustment (Margaret A. Lennox and J. Mohr. *Am. J. Psychiat.* 4:257, ct. 1950).

Tuberculosis

There are three bacteriological procedures: 1) Smear, stained for acid-fast bacilli; 2) culture; 3) guinea pig inoculation. A positive smear reveals nothing about the cultural features or the virulence of the organisms; thus, a smear has only limited diagnostic value. Cultures have considerable diagnostic significance. Yet, inoculation of guinea pigs is the most satisfactory single procedure in detecting tuberculosis. There is a close relation between cultural features and virulence in guinea pig inoculation. (L. A. Weed and G. M. Needham. *Proc. Staff. Meet., Mayo Clinic*, 15:430, July 19, 1950).

Scapulocostal Syndrome

The scapulocostal syndrome should be borne in mind in all complaints referable to the shoulder girdle, particularly in middle-aged persons. The development is usually insidious. Pain in the shoulder is frequent but may be absent; then, some typical radiating pain patterns may be found: pain radiates to occiput or spinous processes of 3rd and 4th cerebral vertebrae; it may originate at the root of the neck and radiate into the shoulder joint; it may radiate into the hand along the ulnar distribution; it may radiate along the 4th and 5th intercostal nerves. Various combinations may occur. Postural changes with round-shoulderedness and shoulder drooping are causative factors (machine operators, typists, long-distance car operators, motormen). Fractures of the scapular body may cause this syndrome. Hemiplegia, Marie-Strumpell arthritis, senility with dorsotundum are contributing causations. Pathologically, faciitis or fibrositis are responsible. The most significant diagnostic sign is a trigger point beneath the upper medial angle of the scapula in conjunction with the posterior chest wall. Differential diagnosis (and misdiagnoses) are: cervical arthritis, herniation of cervical disk, injuries of brachial plexus, subeloid bursitis, supraspinatus injuries and rotator cuff tears. (A. A. Michele; J. J. Davies; F. J. Krueger and J. M. Lichter. *New York State J. Med.* 50:1353, June 1, 1950).

Authors performed serologic tests for syphilis on 178 blood serums of patients with the diagnosis of lupus erythematosus: the incidence rate of false positive reactions was 35 percent. (Chas. R. Rein and G. H. Konstant. *Arch. Dermat. & Syph.* 61: 898, July 1950.)

THERAPEUTIC SUGGESTIONS

Deafness

Lobel, some time ago, reported his experience with parenteral Vitamin A in the treatment of approximately 300 cases of progressive deafness. His results were frequently striking both in middle ear and perceptive types of deafness. The treatment consists in injecting intramuscularly 50,000 units of vitamin A in olive oil and terpins twice weekly for six weeks. If the effect is satisfactory, the treatment is continued for additional 20 to 22 weeks. Lobel stated that only 17% of his cases did not respond favorably after 5 weeks. This paper reports on 30 patients with hearing impairment. 15 showed favorable improvement, demonstrable by audiometric study, at the end of 6 weeks. 17 of 25 patients with tinnitus also displayed improvement within a 6 weeks period. The pharmacological action is not well understood. (J. R. Anderson; H. J. Zoller and L. W. Alexander. *The Eye, Ear, Nose & Throat*. 29:75, Febr. 1950).

Functional Breast Disorders

"Anyone who works in a breast clinic knows, that the majority of patients who come, come because they complain of pain in the breast and it is the pain in the breast that usually does not denote malignancy. It is called mastodynia. And upon careful examination, lumpiness just before the menstrual period is found. It disappears after the menstrual period, and all we have to do is to reassure the patient, have her put on some hot compresses and tell her to wear a well fitting brassiere." (H.W. Meyer. *The J. of the Kansas Med. Soc.*, suppl., 8:18-A, Aug. 1950).

Nephritis

* The controversial viewpoints with respect to cortisone and ACTH in the treatment of nephritis are well illustrated by two recent papers: report on 5 patients who received cortisone 50 to 100 mg. daily for 12 to 20 days at the Mayo Clinic. There was a prolonged beneficial effect with loss of edema, particularly in cases in which the nephrotic element predominated. When, however, azotemia complicated the syndrome, cortisone, by elevating the nitrogen metabolism, increased the danger of uremia (N. N. Keith; M. H. Power and G. W. Daugherty. *Proc. Staff Meet.*, Mayo Clin. 17:49, Aug. 16, 1950). In another small series of patients neither cortisone nor ACTH produced any beneficial effect on the over-all course in acute, subacute, and chronic nephritis. ACTH appeared to induce diuresis in patients with the nephrotic syndrome. (G. W. Thorn; J. P. Merrill; S. Smith III.; M. Roche, and T. F. Frawley. *Arch. Int. Med.* 3:19, Sept. 1950).

Circumcision

Indication: "Unless the prepuce is short and the orifice wide, no healthy infant should go home uncircumcised." Contraindications: prematurity, major congenital deformities making survival questionable; congenital diseases such as colloid or exophthalmic goiter, heart disease, disease of aorta, hypoplasia of parathyroid glands with resultant tetany, jaundice, hemorrhagic diseases of the newborn (watch melena neonatorum, persistent oozing of umbilical stump, submucous or subcutaneous hemorrhages), pemphigus neonatorum. (F. A. Al Akl. *Circumcision*. *Ciba Clinical Symposia*. 7:237, September, 1950).

THERAPEUTIC SUGGESTIONS

Myocardial Infarction

Oxygen treatment generally is associated with subjective improvement. Pain is diminished, respiration becomes more regular, the heart rate decreases. Restlessness subsides. The shock condition slowly disappears, and congestive heart failure either is prevented or counteracted. Interruption of oxygen treatment, in most cases, results in recurrence of all signs and symptoms. Sudden death is rather infrequent as long as patient is in the oxygen tent, probably because ventricular fibrillation is rare when hypoxia of the heart muscle is not progressing. The least average time a patient should remain in the oxygen tent is one week; in many instances, a longer oxygen treatment will be necessary. With improvement of the general condition, the periods of time spent out of the oxygen tent may be lengthened as a test for the equilibrium of the circulation. (R. L. Levy. *Bull. New York Acad. Med.* 26:394, June, 1950).

Skin Tuberculosis

The authors applied 600,000 units of calciferol a week, up to every 15 days, (orally and in injections) for cutaneous tuberculosis. Outstanding results have been obtained. "We do not believe that calciferol has completely and definitely solved the problem of cutaneous tuberculosis, but the power of the medicament upon non hematogenous types is undeniable." Authors stress that T. Cornbleet (*J.A.M.A.* 138:721, Nov. 1948), in stubborn cases, recommended the combination of calciferol and streptomycin. (E. Escalona; M. C. Estrada; O. Arias and A. Chevez. *Medical Woman's J.* 8:7 Aug. 1950).

Peptic Ulcer

"A total of 79 patients with x-ray proved duodenal and gastric ulcers were treated with a powder incorporating water-soluble chlorophyll (chloresium), a 'coating' material, and recognized antiacids. The treatment was not accompanied by the usual restrictions on diet, smoking, alcoholic beverages, or daily activity." Five patients with pyloric obstruction showed no improvement. Of the remaining 74 patients, 58 showed, on roentgenological examination, complete healing in from two to seven weeks; 16 patients showed no roentgenological improvement, but of these, two experienced great clinical improvement and two were symptom free. Of the 74 patients, 60 experienced complete symptomatic relief in from 1 to 3 days. Two had moderate relief. 12 were not benefited. No patient had any toxic reaction. There were no recurrences of symptoms in 20 of the cases which were followed for periods of from 4 to 11 months. Yet, the author warns that insufficient time has elapsed to evaluate the recurrence factor. (Wm. G. Offenkrantz. *The Review of Gastroenterology.* 5:359, May, 1950).

Hyperthyroidism

As soon as psychotic disturbances other than the expected erethism and mood instability appear in a case of hyperthyroidism, thyroidectomy is contraindicated since it aggravates the mental picture and causes in predisposed individuals the outbreak of psychotic disturbances. Author observed 8 cases, and reports on 17 from the literature. (M. Lonard Singer. *Cahiers de Psychiatrie, Strasbourg, France*, p. 89. 1949).

THERAPEUTIC SUGGESTIONS

Quinidine Sulfate

This drug has a definite place in the treatment of a number of cardiovascular conditions such as ventricular tachycardia, congestive heart failure due to auricular fibrillation, premature ventricular contractions in cases of acute coronary artery occlusion, paroxysmal auricular fibrillation and auricular flutter. (L. N. Katz. *J.A.M.A.* 16:1028, Apr. 17, 1948). To these indications have been added: Persistent auricular fibrillation following relief of hyperthyroidism; persistent auricular fibrillation in an apparently normal heart, previously subject to paroxysmal auricular fibrillation; auricular fibrillation as the only sign of arteriosclerotic heart disease. Contraindications are: valvular heart disease with atrial fibrillation, controlled by digitalis; hyperthyroidism; complete heart block. Dangers of quinidine administration: sudden deaths in cases of valvular disease (incidence rate 1 case in 30); peripheral embolism; severe reactions such as circulatory collapse. (H. Burchell, *J. Iowa State Med. Soc.* 39:1, 1949). Recently it has been pointed out that quinidine may cause thrombopenic

purpura; three cases are reported. (J. W. Nocrass. *New Engl. J. Med.* 242:53, Jan. 12, 1950).

Dysmenorrhea

In young women primary dysmenorrhea is partially psychogenic, partially of endocrine origin. Following recommendations: raise pain threshold by correcting mental attitude; at time of menstruation, exercises (particularly bending) — as these exercises produce sweating, there is relief of pelvic discomfort; administration of benadryl, 50 mg. capsules, t.i.d., starting one day before expected menstruation; dilatation of cervix is last resort. (E. M. Robertson (*South. M. J.* 43: 265, 1950). — In severe menstrual pain priscoline (2-benzyl-4, 5-imidazoline hydrochloride), a vasodilator, has relieved pain in about 95 per cent of cases: orally 25 mg. every four hours; if dysmenorrhea is complicated by vomiting, the drug is administered intravenously, 50 mg. Should pain be not relieved one hour after intravenous administration, 100 mg. of nicotinic acid is given intravenously (M. I. Griffith and J. M. Little *ibid.* 42: 1082, 1949).

GENETICS—(from page 211)

ord Office at Cold Spring Harbor, Long Island, made the following eugenical classification of different germplasm of people:

1. Persons of genius.
2. Persons of special skill, intelligence, courage, unselfishness, enterprise or strength.
3. Persons constituting the great normal middle class, the people.
4. Socially inadequate persons.

The number 4 class is the one that gives society the greatest concern

because they keep society well supplied with the three D's—defectives, dependents, and delinquents.

What portion of time do physicians give to the DDD's?

LOW SODIUM DIET—

(from page 215)

3. Schroeder, H. A. *J. Clin. Investigation* 28:809, 1949.
4. Soloff, L. A. and Zatuschni, J. *J.A.M.A.* 139, 1136-1139, 1949
5. MacGuire, W. B., Jr. *J.A.M.A.* 137, 1377, 1948.
6. Friedenber, S. *New England J. of Med.* 242, 277-280, 1950.

NEW PRODUCTS

Chloresium Powder. Water-soluble derivatives of chlorophyll plus antacids, aluminum hydroxide and magnesium trisilicate in a base of dehydrated powdered okra. The individual packet contains 1.8 gm. of the powder (one dose). Indication: chronic peptic ulcer.

Rystan Company, Inc., Mount Vernon, N. Y.

Mumps Vaccine Lederle. Prepared from chick embryos. Packaged in vials of 2 cc. and 10 cc., representing one and five immunization doses.

Indication: immunization of large groups of children or adults, in locations where mass outbreak of mumps would cause serious inconvenience.

Lederle Laboratories Division. American Cyanamid Company. Pearl River, N. Y.

Biosulfa, Compressed Tablets. Crystalline Penicillin G. Potassium, 100,000 units; Sufadiazine, 0.24 Gm.; Sulfamerazine, 0.25 Gm.; Calcium Carbonate, 4 grs.

Indications: pneumonia, Vincent's angina, gonorrhea, follicular tonsillitis, mastoiditis, and other infectious diseases. May cause severe toxicity.

Mrthyl Testosterone Sublingual Tablets. Synthetic, crystalline methyl testosterone for oral administration (5 mg. and 10 mg.) and slow absorption. Tablet placed under the tongue or in the space between the gums and the cheek.

Abbott Laboratories, North Chicago, Illinois.

Win 3000. A compound resulting from research on ion exchange. Ion exchange resins afford relief to patients suffering from heart conditions and hypertension, requiring salt-free diets. This compound is still in the stage of preliminary clinical trials.

Sterling-Winthrop Research Institute. Rensselaer, N. Y.

Adenophos. Adenosine — 5 Phosphate. Ampules containing 20 mg. per cc genuine muscle adenylic acid adjusted to pH 7.

Indications: of possible value in the treatment of pruritus and varicose ulcers. Promising results in various muscle dysfunctions. The preparation is not yet on the market and is available in 1 cc and 5 cc sizes to qualified investigators only.

Sigma Chemical Co., St. Louis 13, Mo.

Theryl Sublingual. Combination of acetylsalicylic acid and benzosulfimide (saccharin), the latter apparently making possible the absorption of the anesthetic agent from the oral mucosa.

Indications: according to clinical tests instantaneous control of pain, both headache and postoperative pain (Studies by Dr. Raymond W. McNealy at Cook County Hospital and Wesley Memorial Hospital) Church Chemical Co., Chicago 1, Illinois.

BOOK REVIEWS

Postgraduate Lectures on Orthopedic Diagnosis and Indications

Arthur Steindler, M.D., F.A.C.S., Springfield, Ill. Charles C. Thomas, Publisher,
1950. 280 pages. Cloth. Price \$7.50.

Dr. Steindler has a methodical and lucid way in focussing the reader's interest on orthopedic problems. Everywhere he considers the historical evolution of diagnosis and treatment, and the impact of a localized lesion on the whole organism. The introductory chapters on Body Symmetry, with the body in equilibrium, and Body Asymmetry, with body disequilibrium, the orientation of joint position and ranges of the extremities, the measurement of joint motion and the special kinetic analysis of joint motion, give a clear physiological and pathophysiological foundation of understanding of special disease processes. These start with a section on contractures — in the field of myogenic contractures the differentiation between contractions and contractures is aptly described. The desmogenetic and dermogenetic extra-articular contractures are depicted. One chapter is dedicated to the interpretation of pain in orthopedic conditions. This presentation is particularly well done, although one might be permitted to say that neurologists generally have abandoned the concepts of protopathic and epicritic sensation. Pain as a localizing diagnostic symptom is set forth for a number of orthopedic pathological processes and may be of diagnostic help even to the orthopedically untrained physician. This reviewer was particularly impressed by the section on congenital deformities and disabilities: the chondrodystrophies; the atypical achondroplasias, (achondroplasia; Ollier's disease, congenital exostoses, Morquio's disease, chondrodystrophia calcificans); dysostosis cleidocranialis digitalis; osteopsathyrosis; partial gigantism and hemigigantism; arthrogryposis. The literature references for this chapter are judiciously selected. The section continues with a lecture on congenital deformities of the spine and thorax. The pages dealing with the spine bifida problem are well written and the differentiation of the various types of torticollis is clearly explained. The congenital clubfoot problem, of course, is thrown out into relief in some length. While the author stresses the genetic factors and the familiar incidence of congenital talipes, one would have expected to read a paragraph on the important psychosomatic implications. The congenital dislocation of the hip again is described with clarity as to its incidence rate (about 1% of all orthopedic cases), its hereditary transmission, its pathogenesis, diagnosis and treatment. The volume concludes with a chapter on the congenital deformities of the upper extremity.

Cerebral Palsy

John F. Pohl, M.D., Bruce Publishing Company, St. Paul, Minnesota, 1950. 224
pages. Cloth. Price \$5.00.

Doctor Pohl is an orthopedic surgeon at the Michael Dowling School for crippled children in Minneapolis and has had an ample experience in cerebral palsy. He states that a cerebral palsy child is born and survives on the average — once for each 568 live births. It is estimated that 10,000 new cases occur annually in the United States and that there are 500,000 cerebral

BOOK REVIEWS

palsy cases in this country. The author reports on 512 children in the period from 1937 to 1950. He distinguishes the following types: (a) spastic type (66% of the total), (b) athetotic type (19% of the total), (c) atoxic type (8% of the total), (d) rigidity type, (e) tremor type and (f) atonic type. As to the causes, he lists prolonged labor (42% of the cases); delayed respiration following birth (33% of the cases); premature birth (36% of the cases). In 12% of the cases the pregnancy was impaired by bleeding, toxemia, hypertension and mechanical injury. Labor was artificially induced in 14%. As to the treatment, the author stresses that surgery plays a minor role. The following treatment methods are described: relaxation, neuromuscular training, developmental training, walking and occupational therapy. An entire chapter (together with E. Margaret Sullivan) is devoted to the speech disorders of children with cerebral palsy and their treatment. Considering the fact that speech disorders are among the most disturbing impairments — objectively and subjectively — in this disease, it shows a judicious viewpoint to emphasize this aspect of cerebral palsy.

If there are any exceptions to be made, it would be first, that the author fails to give a statistical evaluation of his treatment results which would integrate the statistical presentation of incidence rate and morbidity rate; second, only six literature references are mentioned which is hardly understandable considering the enormous literature which exists on this subject. While it is true that too many quotations from the literature and too many references may dim the clarity of the depiction, a discerning selection is always helpful in widening the scope of a topic.

Practical Gynecology

Walter J. Reich, M.D., F.A.C.S., F.I.C.S. and Mitchell J. Nechtow, M.D. J. B. Lippincott Company, Philadelphia, 1950. 449 pages. Cloth.

Among the many books published on gynecological problems, this book stands out for several reasons. One main reason is that it is not a book essentially for the gynecologist but that it places the diagnosis and the treatment of female disorders within the framework of medicine as a whole. Gynecological disorders in this presentation are but projections of the entire organism in which localized lesions play only a subordinate role. A second reason is that the emotional implications of female pathological reactions are emphasized everywhere and that the introductory chapter deals with "Psychosomatics of Gynecology." In many other instances are the emotional factors put into the foreground; so in primary dysmenorrhea, in the menopause, in backache, in dyspareunia and vaginismus and in female sterility. A particularly instructive chapter in this respect is Chapter 17 dealing with "Premarital Examination and Counsel."

The chapters on "Examining Methods" are well selected and presented. It should be pointed particularly to Chapter 3, "Biopsy and the Early Detection of Cancer," which sets forth in a practical and critical way, the methods which can be used by the general practitioner for the early detection of malignancy of the cervix and the uterus. There is also a good, yet brief description of the technics of infant, juvenile and adolescent vaginal

BOOK REVIEWS

examination. This is frequently a difficult problem in general practice; and the general practitioner should become familiar with juvenile vaginocopy methods with which he may overcome the physical and emotional implications in examining young females.

It would lead too far to emphasize in detail all the valuable features of this book. In its reflection of great clinical experience, in its critical selection of the most important subjects of the specialty, in its continuous contiguity with general medicine, this book can be well recommended to all physicians in general practice.

BOOKS RECEIVED

HARVEY CUSHING

Surgeon, Author, Artist

By Elizabeth H. Thomson, research assistant, Historical Library, Yale University School of Medicine, Henry Schuman, 1950, \$4.00.

DOCTORS OF INFAMY

The Story of The Nazi Medical Crimes
By Alexander Mitscherlich, M.D., Head of the German Medical Commission to Military Tribunal No. 1, Nuremberg and Fred Mielke, Henry Schuman, 1949, \$3.00.

EVALUATION IN PHYSICAL EDUCATION

By Gladys Scott, Professor of Physical Education, State University of Iowa and Esther French, Professor and Head, Department of Health and Physical Education for Women, Illinois State Normal University. The C. V. Mosby Company, 1950, \$4.00.

THE 1950 YEAR BOOK OF MEDICINE

Edited by Paul B. Beeson, M.D., J. Burns Amberson, M.D., William B. Castle, M.D., S.M. (Hon.) Yale, M.D. (Hon.) Utrecht, Tinsley R. Harrison, M.D., George B. Eusterman, M.D., The Year Book Publishers, 1950, \$5.00.

ANTIHISTAMINES INDUSTRY AND PRODUCT SURVEY

By Nathan Wishniefsky, B.S. in Phar., B.Ch.E., M.Ch.E. R.S., Aries & Associates, Chemonomics, Inc. Publishers, 1950, \$5.00.

AN INTEGRATED PRACTICE OF MEDICINE

By Harold Thomas Hyman, M.D., W. B. Saunders Company, 1950, price not listed.

THE CYCLOPEDIA OF MEDICINE SURGERY AND SPECIALTIES

George Morris Piersol, B.S., M.D. Editor-in-Chief and Edward L. Bortz, A.B., M.D. Assistant Editor, F. A. Davis Company, 1950, price not listed.

BASIC PRINCIPLES OF CLINICAL ELECTROCARDIOGRAPHY

By Hans H. Hecht, M.D., Associate Professor of Medicine, University of Utah School of Medicine, Salt Lake City, Utah, Charles C. Thomas, Publisher. 1950, \$2.00.

BRONCHESOPHAGOGY

By Chevalier Jackson, M.D., Sc.D., LL.D., F.A.C.S., Honorary Professor of Bronchoesophagology and Laryngeal Surgery, Temple University, Philadelphia and Chevalier L. Jackson, M.D., M.Sc., F.A.C.S., Professor of Bronchoesophagology and Laryngeal Surgery, Temple University, Philadelphia, W. B. Saunders Company, 1950, \$12.50.

HOW TO SURVIVE AN ATOMIC BOMB

By Richard Gerstell, Ph.D., Consultant, Civil Defense Office, National Security Resources Board, Publisher, Combat Forces Press, 1950, \$1.95

REGIONAL ORTHOPEDIC SURGERY

By Paul C. Colonna, M.D., Professor of Orthopedic Surgery, University of Pennsylvania Medical School, W. B. Saunders Company, 1950, \$11.50

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